

CLAIMS

1. A machineroomless elevator system having an elevator shaft and not having any machine room in an upper part of the elevator shaft, said machineroomless elevator system comprising:

a car guided by car guide rails for vertical movement in the elevator shaft;

a counterweight guided by counterweight guide rails for vertical movement in a space extending along the rear wall of the elevator shaft behind the car;

a traction sheave disposed in a space above the car at the top of the elevator shaft on either the right-hand or the left-hand side of the car;

a driving device for driving the traction sheave for rotation;

a base frame fixedly supporting the driving device;

base frame support means fixed to the car guide rails and the counterweight guide rail; and

vibration-isolating means interposed between the base frame and the base frame support means.

2. The machineroomless elevator according to claim 1 further comprising an upper deflecting sheave for guiding a part, extending toward the counterweight, of the hoisting element suspending the car and the counterweight, and the upper deflecting sheave is supported on the base frame.

3. The machineroomless elevator system according to claim 1 further comprising lower deflecting sheaves supported on a support frame connected to and extending down from the base frame to guide a part, extending downward from the traction sheave, of a hoisting element suspending the car and the counterweight.

4. The machineroomless elevator system according to any one of claims 1 to 3, wherein the support means is provided with an opening, and a vertically extending part of the hoisting element is passed through the opening.

5. The machineroomless elevator system according to any one of claims 1 further comprising a control panel for controlling the operation of the driving device, disposed in a region near either of the right or the left side wall of the elevator shaft of a space extending

between the rear wall of the elevator shaft and a vertical plane including the rear surface of the car, and connected to the adjacent counterweight guide rail by a connecting member.

6. A machineroomless elevator system having an elevator shaft and not having any machine room in an upper part of the elevator shaft, said machineroomless elevator system comprising:

- a car guided by right and left car guide rails for vertical movement in the elevator shaft;

- a counterweight guided by right and left counterweight guide rails for vertical movement in a space extending along the rear wall of the elevator shaft behind the car;

- a traction sheave disposed in a space at the top of the elevator shaft near either the right or the left side wall of the elevator shaft, and capable of being rotated about an axis of rotation diagonal to the side and the rear wall on a horizontal plane;

- a driving device for driving the traction sheave for rotation;

- a base frame fixedly supporting the driving device;

- base frame support means fixed to upper parts of the car guide rails and the counterweight guide rails; and

- vibration-isolating means interposed between the base frame and the base frame support means.

7. The machineroomless elevator system according to claim 6 further comprising an upper deflecting sheave disposed near the rear wall of the elevator shaft, having an axis of rotation perpendicular to the rear wall of the elevator shaft and supported for rotation on the base frame to guide a part, extending toward the counterweight, of the hoisting element suspending the car and the counterweight.

8. The machineroomless elevator system according to claim 6 further comprising:

- lower deflecting sheaves disposed below the traction sheave and near the side wall of the elevator shaft, and respectively having transverse axes of rotation perpendicular to the side wall of the elevator shaft to guide a part, extending downward from the traction sheave, of the hoisting element suspending the car and the counterweight, and

a support frame supporting the lower deflecting sheave below the base frame;

wherein the support frame includes a pair of vertical members having upper ends joined to support means fixed to the car guide rail and the counterweight guide rail, and extending vertically downward from the support means, a horizontal member extended horizontally between the lower ends of the vertical members, and vibration-isolating means held between the horizontal member and the lower ends of the vertical members.

9. The machineroomless elevator system according to any one of claims 6 further comprising a control panel for controlling the operation of the driving device, disposed in a region near either of the right or the left side wall of the elevator shaft of a space extending between the rear wall of the elevator shaft and a vertical plane including the rear surface of the car, and connected to the adjacent counterweight guide rail by a connecting member.

10. The machineroomless elevator system according to any one of claims 6, wherein the base frame includes:

a side support beam perpendicular to the rear wall of the elevator shaft and extending along the side wall of the elevator shaft,

a rear support beam laterally extending along the rear wall of the elevator shaft,

a diagonal support beam parallel to the axis of rotation of the traction sheave and fixedly supporting the driving device thereon, and

connecting members connecting the side, the rear and the diagonal support beam.

11. The machineroomless elevator system according to claim 10, wherein the opposite ends of the diagonal support beam are placed on and fastened to the side support beam and the rear support beam.

12. The machineroomless elevator system according to claim 10, wherein the rear support beam is provided with an opening, and a part, extending downward from the upper deflecting sheave, of the hoisting element is passed through the opening of the rear support beam.

13. The machineroomless elevator system according to any one of claims 10, wherein the side support beam the rear support beam and the diagonal support beam is formed by processing shape steels having one open side.

14. The machineroomless elevator system according to any one of claims 10, wherein the side support beam is provided with an opening, and a part, extending downward from the traction sheave, of the hoisting element is passed through the opening of the side support beam.

15. The machineroomless elevator system according to any one of claims 6, wherein the support means is provided with an opening, and a vertically extending part of the hoisting element is passed through the opening of the support means.